

## BEEF TOPS FOR DAIRY CATTLE

By Howard C. Dickey

The dairy farmer who has beet tops available to feed on his farm has usually learned that the careless methods of handling this feed are wasteful and expensive. Realizing that he does have a valuable source of additional roughage for his dairy cattle, he is now interested in how much additional roughage he can expect from his beet tops. Also, he wants to know the best method or methods of storing and handling this supply of feed and its value as a feed for dairy cattle.

Colorado farmers produce about two million tons of sugar beets each year and have from one and one-third to one and one-half million tons of green tops to use. Cattle are the main consumers of this source of feed.

When gathered without undue waste, the tops, which include the crowns and the leaves, will weigh about one-half as much per acre as the marketed beets. The green weight of the tops in proportion to the weight of the beets will range all the way from 50 to 70 percent or even more, depending upon the percentage of dry matter in the tops and the leafiness of the crop.

Often the tops are purchased on the basis, not of actual weight of tops, but of the amount of tops from each ton of marketed beets. Experiments conducted at the Colorado State College showed that for each ton of beets produced the farmer can expect about 1280 pounds of green tops at topping time, containing 80 percent moisture. These tops if piled in the field will lose about 10 percent moisture each week for about four weeks; then they will lose moisture slowly until they reach the very dry stage, in which they contain about 20 percent moisture. Thus the farmer will have from each ton of beets produced about 860 pounds of tops one week after topping, 640 pounds of wilted tops at the end of two weeks, 520 pounds at the end of the third week, and 420 pounds of dried tops, 40 percent moisture content, at the end of the fourth week.

### Storing and Handling

For dairy cattle it has usually been found that it is best to put the tops into the silo when the weather is clear and dry. When the weather is wet and stormy, it is best to pile the tops into small piles and feed them later as dried beet tops. This is explained by the fact that dirty or muddy tops put into the silo will keep this dirt, but most of this dirt will drop out when handling dried beet tops. In Europe the tops are sometimes dried artificially for sale as a stock feed.

When storing beet tops in the silo, they should be put into the silo as quickly as possible after topping. No other treatment is necessary. The amount of beet top silage secured from one ton of beets varies somewhat, because of differences in the moisture content of the tops at the time of ensiling. However, one ton of sugar beets usually produces one-half ton of beet top silage. Running the tops through a silage cutter is the most convenient method of

elevating them into an upright silo, but, when they are put into a trench or pit silo, it is not necessary to cut them. Beet tops make good silage when run through a silage cutter with an equal weight of dry corn fodder, enough water being added to pack well.

Recent information from Montana and South Dakota shows that beet top silage can be made by piling the green beet tops into piles about eight feet high. Allow these piles to settle and then top the piles with enough additional beet tops so that the settled pile or stack is approximately eight feet high. The beet tops should be packed well as they are stacked. The beet tops will ferment and heat exactly the same as they will in a silo and a good silage will result, providing the beet tops are packed well at the time they are stacked and the stack is able to shed rain well. There will be a small amount of spoilage around the edge and on the top of the stacks.

### Feeding

When feeding beet tops or beet top silage to dairy cows, a few ordinary precautions should be kept in mind. Beet tops contain relatively large amounts of acids and salts. These materials tend to cause scours unless the quantity of tops is restricted or unless ground carbonated lime, (calcium carbonate) is added. This ground lime reduces the available oxalic acid in the beet tops and in that way makes a better feed for dairy cows. The ground lime should be sprinkled on the beet tops at the rate of one ounce for each fifty pounds of beet tops at the time of feeding.

Dairymen have found that the best results are obtained when dried beet tops are fed in quantities of thirty pounds or less per day along with hay and grain. Beet tops should not be fed as the sole source of roughage in the dairy cow's ration. It is best to feed beet tops and beet top silage in much the same manner as corn silage. In fact, many Colorado dairymen use beet tops in place of silage in the ration for their cows but along with some other roughage. When fed in this way, the beet tops add succulence and palatability to the ration.